WORKBOOK FOR SCIENCE IN EVERYDAY LIFE

2062

BOOK ONE

by
A. VERSTRAETEN
and
N. A. WATTS

STATE INSTITUTE OF EDUCATION
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WORKBOOK FOR
SCIENCE IN EVERYDAY LIFE

BOOK ONE

SELF-TESTING EXERCISES TO ACCOMPANY THE TEXT-BOOK

By

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With a Foreword by

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STATE INSTITUTE OF EDUCATION BANIPUR

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FOREWORD

As a result of the advances in Science and Technology the vocational foundations of the structure of Society are changing and, therefore, it is essential for all Secondary School pupils to be familiar with certain scientific ideas which underlie progressive thought and activity at all levels.

The purpose of this series of General Science books is to provide such pupils with a broad basic knowledge of scientific facts.

Mere instruction in Science will not capture what is termed the 'spirit of science'. Westaway rightly points out: "The spirit of science cannot be weighed and measured even if weighing and measuring are necessary for tracking it down. It is not enough to track it down, it must be captured. . . ." The authors have succeeded, I believe, in presenting scientific ideas in a manner which will not only instruct but interest pupils and thus help them to capture the spirit of Science.

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Examination (University of Cambridge Local
Examinations Syndicate)

SCIENCE IN EVERYDAY LIFE

Books I, II, III and IV

Workbooks I, II, III and IV to accompany each text-book.

Teachers' Manual including Key to Workbooks.

PREFACE

Science has come to form such an integral part of our daily lives that a knowledge and understanding of its facts is regarded as one of the major goals of education. Furthermore, the development of a scientific attitude and a knowledge of how to apply the methods of science to the solution of personal problems is regarded as an important outcome of the educational process.

The workbooks accompanying the series of books entitled 'SCIENCE IN EVERYDAY LIFE' are designed to meet the problems of learning meaningful scientific facts and their translation into life patterns. They include material and suggested experiences through which the student can check his knowledge of facts, clinch his understanding of the basic concepts developed in the text and gain practice in the skills of solving problems, evaluating and interpreting facts, testing hypotheses, formulating generalisations and applying his understanding to everyday situations. The tests in the workbook also furnish the teacher with an instrument of measuring individual pupil differences in capacity and achievement and the status of the class as a whole, while a critical survey of the scores afforded by the tests reveal the efficiency of certain methods of instruction.

Each workbook contains tests which are constructed parallel to the chapters in the text-book it accompanies, so that the student's mastery of each chapter is facilitated. At the end of each part or book are tests which require the integration of the knowledge gained in the preceding chapters in order to be answered correctly.

The sheets in the workbook may be distributed separately in schools where a loose-leaf file is in use for the subject, or the workbook can be used intact. In either case, the corrected exercises should be readily available as a reference for study and review.

The key for each workbook is included in the Teachers' Manual accompanying the series of text-books.

A. VERSTRAETEN
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TESTS ON CHAPTER I

THE EARTH—A WONDERFUL STORYBOOK

Recall

1. In the case of the following rocks, indicate how their appearance or composition is explained by the particular way in which they were formed.

a. Pumice.____

b. Sandstone.______________________________________

c. Marble.____

2. Complete the table below by listing the principal uses of the rocks given in the first column.

Rocks	*Uses*
Pumice	
Basalt	
Granite	
Slate	
Marble	

3. Answer the following questions.

a. Why are sharp, jagged rocks not usually found in streams?____________

b. What determines the amount of material and size of the pieces of rock that a river can carry?____________

c. How are wind and water alike in the way in which they transport and deposit materials?____________

d. Why are fossils never found in igneous rocks?____________

4. State two ways in which sudden changes in temperature can affect rocks.

i.____

____

ii.____

____

Recognition

5. Place the following rocks in their correct column.
Chalk, basalt, slate, shale, granite, limestone, marble, sandstone, coal, pumice, obsidian.

Igneous rocks	*Sedimentary rocks*	*Metamorphic rocks*
____________	____________	____________
____________	____________	____________
____________	____________	____________
____________	____________	____________
____________	____________	____________

6. Certain forces level the surface of the earth, act to build up the earth's surface and cause different regions to rise and lower. From the list of such forces given below, select one which is principally concerned with each of the following and write its symbol on the blank space at the right.

a. Sedimentary rocks________ **b.** Sand dunes________ **c.** Tidal waves________
d. Unusual rock formations________ **e.** Caves in the side of a cliff________ **f.** Chasms
in mountainous regions________ **g.** Lava________ **h.** Huge rocks at the foot of a slope
in mountainous regions________ **i.** Deposition of sand in the mouth of a river________
j. The buckling of the earth's crust into great folds________

E, earthquakes; **G,** gravity; **Gl.,** glaciers; **Vo.,** volcanoes; **Wa.,** water; **Wi.,** wind.

7. Select the number of the item that best completes the statement and write it on the blank space at the left of the statement.

________**a.** Fossils may be found in (i) pumice; (ii) marble; (iii) basalt; (iv) sandstone.

________**b.** Peat is the name given to (i) a clay rock; (ii) a marshy vegetable substance; (iii) a kind of fossil; (iv) a metamorphic rock.

________**c.** The lava issuing from the mouth of a volcano comes from (i) subterranean furnaces; (ii) the land around a volcano; (iii) the core of the earth; (iv) a depth of over 2,000 miles.

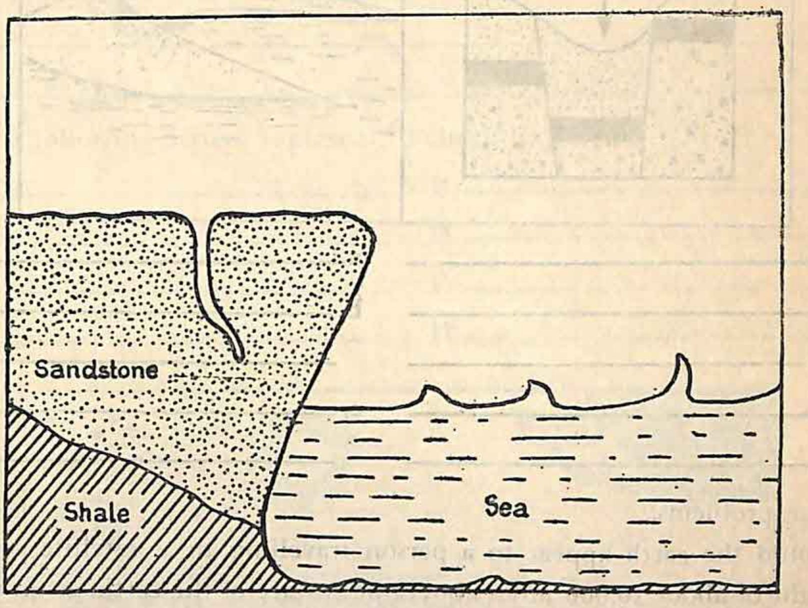
NAME____________________________ CLASS____________ DATE__________

d. The surface of the earth is gradually worn away by (i) wind, water and glaciers; (ii) volcanoes; (iii) earthquakes; (iv) sedimentation.

e. The core of the earth is composed of (i) gases; (ii) liquids; (iii) molten metal; (iv) a mixture of rocks and metals.

Understanding

8. The diagram shows a section through a cliff on the coast. Explain the probable action of the following: (**a**) heavy rainfall, (**b**) heavy rainfall followed by frost, (**c**) rough sea, (**d**) high tide, (**e**) offshore wind.



a.____

b.____

c.____

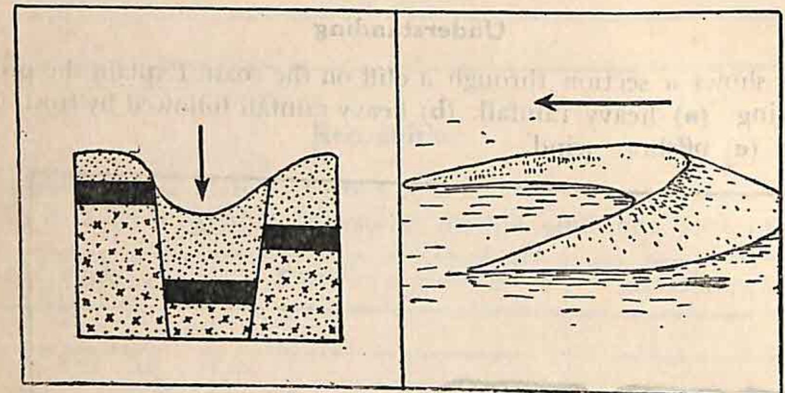
d.____

e.____

9. **a.** Identify each of the following drawings and write a suitable caption below each drawing.

b. How is each caused?

c. What do the arrows represent?



a.______________________________

b.______________________________

____

c.______________________________

____

a.______________________________

b.______________________________

____

c.______________________________

____

10. Solve these problems.

a. How would the earth appear to a person travelling in a satellite round the earth at a height of about 10,000 miles above the surface of the earth, assuming there were no clouds to obscure his view?____________________

____

____

b. How do the vibrations and shaking of a building in the case of an earthquake differ from what happens when a heavy lorry passes over a nearby street?__________

____

____

Score:____________ **Teacher's initials:**______________

NAME CLASS DATE

TESTS ON CHAPTER II

THE IMPORTANCE OF SAVING OUR SOIL

Recall

1. What is meant by (**a**) humus, (**b**) loam, (**c**) marl, (**d**) peaty soil, (**e**) capillarity?

a.

b.

c.

d.

e.

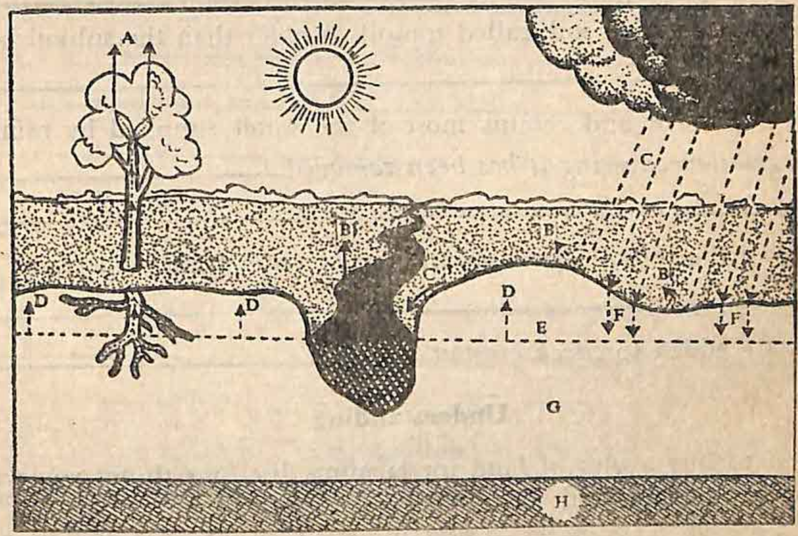
2. What do the following letters represent in the illustration?

A. **B.**

C. **D.**

E. **F.**

G. **H.**



3. List three ways by which forests check erosion.

i.

ii.

iii.

4. (**a**) What is crop rotation? (**b**) Why is it desirable?

a.

b.

Recognition

5. Mark with a **C** the phrases that are true of a clay soil and mark with an **S** those that are true of a sandy soil.

a. Microscopic particles

b. Cannot be moulded

c. Shrinks and hardens on drying

d. Is soft and plastic to touch

e. When dry, does not crack

f. Possesses great adhesion

g. Is 'heavy' and expensive to work

h. Possesses good permeability

i. Holds little or no water

j. Possesses good capillarity

6. If a statement is true, write the word 'true' on the blank space at the right of the statement; if false, write the word(s) which should be substituted for the italicised word(s) to make the statement true.

a. Most minerals that are made available to plants as soil originate through the *decomposition of living things.*

b. The uppermost layer of soil, called topsoil, is *older* than the subsoil beneath it.

c. The topsoil absorbs and retains most of the water supplied by rainfall when *the natural vegetation covering it has been removed.*

d. As the loss of the topsoil *decreases,* the loss of water from it increases.

e. Fertilisers are added to *check erosion.*

Understanding

7. If you desired to buy a plot of land for farming, list four things you would examine on inspecting the plot of land.

i.

ii.

iii.

iv.

Score:

Teacher's initials:

NAME______________________________ CLASS____________ DATE____________

TESTS ON CHAPTER III

TREASURES FROM THE EARTH

Recall

1. In the illustration entitled 'Inside a glass factory' four stages in the manufacture of a glass bottle are shown. Make a list of these in their proper order.

i. ____

ii. ____

iii. ____

iv. ____

2. Complete the table below by listing the uses of the materials given in the first column.

Material	*Uses*
Table salt	
Sulphur	
Coal	
Coal-gas	
Coal-tar	
Petroleum	

Recognition

3. From the list of raw materials given below, select one or more used to make each of the following and write it on the corresponding blank space at the right.

a. Cement.____________________ **b.** Mortar.____________________

c. Bricks.____________________ **d.** Concrete.____________________

e. Tiles.____________________ **f.** Glass.____________________

Raw materials : clay, lime, limestone, sand, slate, washing soda.

4. Place the following materials in the correct column.
Limestone, asbestos, zinc, salt, iron, copper, sulphur, silver, petroleum.

Metallic resource	*Non-metallic resource*
____________	____________
____________	____________
____________	____________
____________	____________
____________	____________

Understanding

5. Scientists have calculated that the increase of temperature with depth below the surface of the earth is fairly regular. Show this relationship on the graph paper. Use the graph to determine (**a**) the temperature at the bottom of a coal mine which is about 3,500 ft. deep and (**b**) the depth at which it would be hot enough to boil water.

Score: ____________ **Teacher's initials:** ____________

NAME________________________________ CLASS____________ DATE____________

TESTS ON CHAPTER IV

WATCH OUT FOR THE WEATHER

Recall

1. List the five main steps in the formation of a cloud in their proper order.

i. ____________________

ii. ____________________

iii. ____________________

iv. ____________________

v. ____________________

2. Answer the following questions.

a. What is the probable explanation of a lightning discharge between a cloud and the earth, or between two clouds? ____________________

b. What path will a lightning discharge follow? ____________________

c. How do you explain the origin of wind? ____________________

d. How does the difference in atmospheric pressure arise over neighbouring regions?

e. Why is it that more rain falls on the windward side of a mountain range?

3. Distinguish between each of the following pairs.

a. Dew point and O°C.

b. Weather and Climate.

c. Mist and fog.

d. Land and sea breezes.

Recognition

4. From the weather conditions listed below, select one which is caused by each of the following and write it on the corresponding blank space at the right.

a. The temperature of the air near the ground drops below the dew point.________

b. The temperature in a cloud drops below O°C.________

c. The temperature of objects drops below the dew point.________

d. The temperature of moist air at a high level drops below the dew point.________

e. The temperature of an object drops below the dew point which is itself below O°C.________

f. The temperature in a cloud is above O°C, but drops below the dew point.________

Weather conditions : cloud, dew, frost, mist, rain, snow.

Understanding

5. Study the given table and thereafter answer the following questions.

Towns	*Altitude*	*Mean Temperature* (May)	*Mean Temperature* (December)	*Annual Average Rainfall*
Lahore	702 ft.	31·0°C.(87·9°F.)	13·6°C.(56·5°F.)	19·21 in.
Darjeeling	7,432 ft.	14·3°C.(57·7°F.)	6·4°C.(43·5°F.)	126·42 in.
Bombay	37 ft.	29·6°C.(85·3°F.)	25·4°C.(77·7°F.)	71·21 in.

a. Why is the mean temperature for May in Darjeeling lower than either that of Lahore or Bombay?________

b. Why is the mean temperature for December in Lahore lower that that of Bombay?

NAME____________________ CLASS__________ DATE__________

c. Why does Lahore have a lower average rainfall than either Bombay or Darjeeling?

____

____

d. Why do Bombay and Darjeeling have such high annual average rainfall?__________

____

e. Why has Darjeeling a higher annual average rainfall than Bombay?__________

____

6. Account for each of the following facts.

a. Air pressure acts in all directions.____________________

b. Although the air pressure on a man of average size is about 30,000 pounds, yet he is not crushed to death.____________________

____

c. People that fly in an aeroplane experience a popping sensation in their ears.

____

____

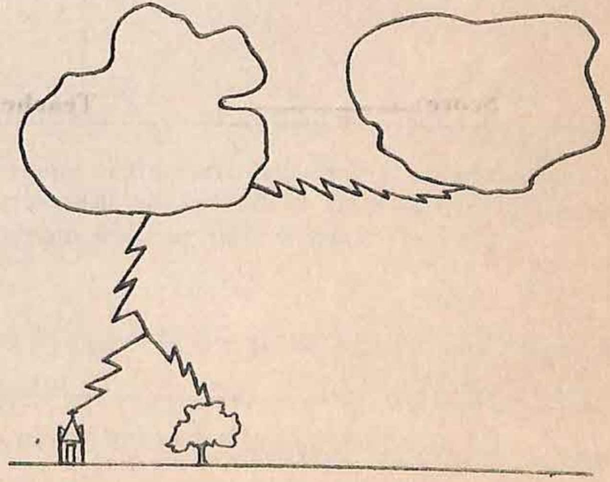
____

d. Mountaineers usually suffer from breathlessness, headaches and nausea in climbing to great heights.____________________

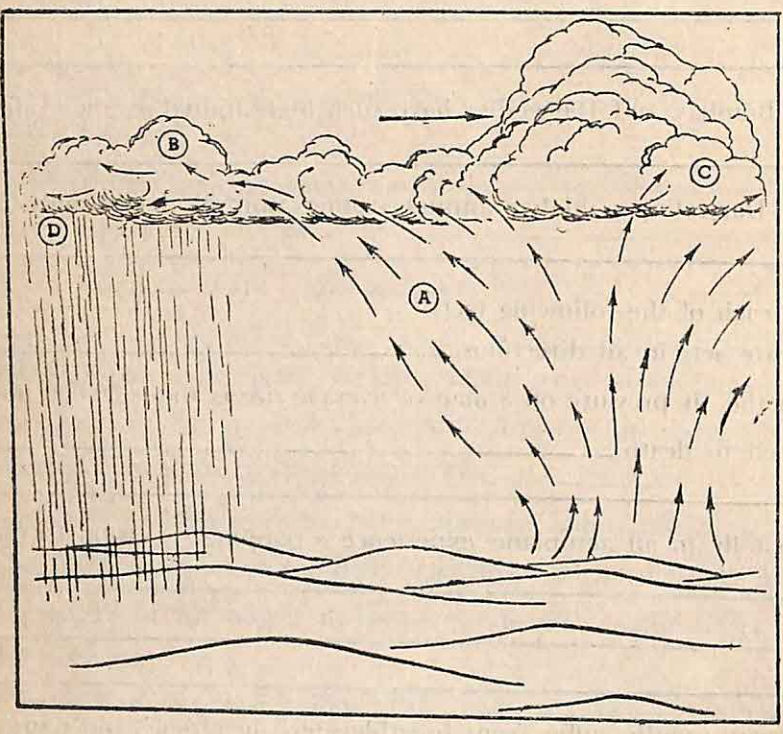
____

e. The heat received by the earth's surface from the sun over a given area gets less as we move away from the equator.____________________

7. On the diagram, insert plus signs to represent positive charges of electricity and minus signs to represent negative charges of electricity. In this way show how lightning passes from one cloud to another and from one cloud to the earth along the path indicated in the diagram.



8. The diagram shows several steps in the approach of a rainstorm.



What do the following letters represent in the diagram?

A.____________________________________

B.____________________________________

C.____________________________________

D.____________________________________

Score:____________ **Teacher's initials:**____________

NAME______________________ CLASS__________ DATE__________

TESTS ON CHAPTER V

THE UNSEEN FORCE THAT PULLS EVERYTHING DOWN

Recall

1. What is meant by (**a**) the force of gravity, (**b**) the weight of an object, (**c**) a plumb-line?

a. ______________________________

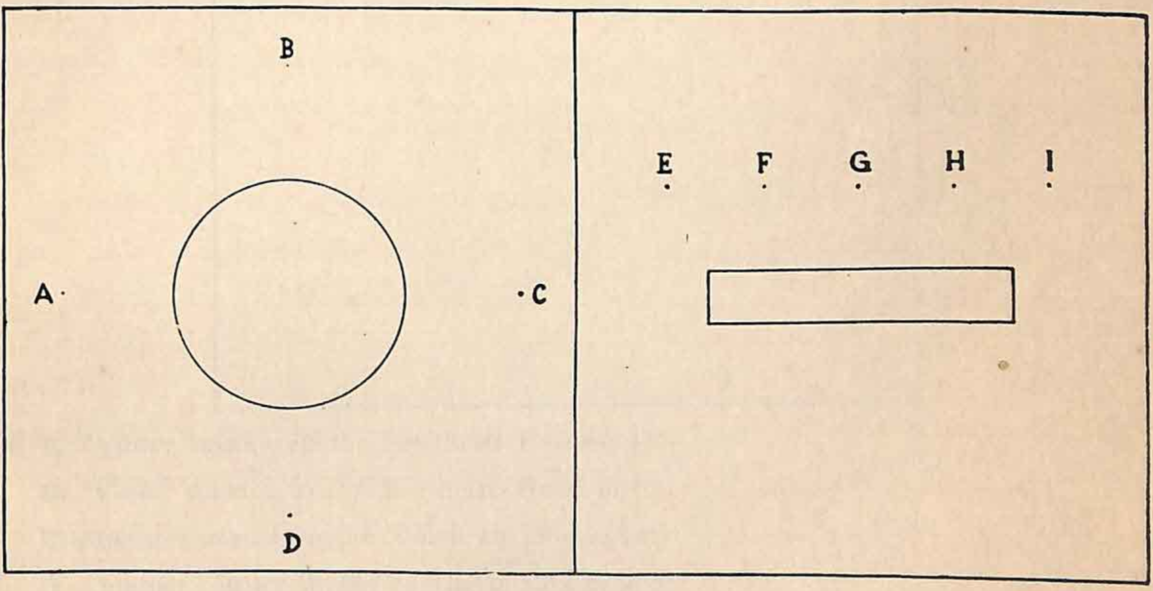
b. ______________________________

c. ______________________________

____

Understanding

2. (**a**) In the diagram on the left **A, B, C** and **D** represent the points of suspension of four separate plumb-lines and the circle represents the earth. Draw each plumb-line on the diagram showing how it would hang.



(**b**) In the diagram on the right the shape of the earth is imagined to be that of a cake. **E, F, G, H** and **I** represent the points of suspension of five separate plumb-lines. Draw each plumb-line on the diagram showing how it would hang.

3. Solve these problems.

a. Why is it that all objects tend to fall towards the earth and not away from it?

____

b. Why do people on opposite sides of the earth stand with their heads pointing away from each other?____

c. Why is a brick heavier than an eraser?____

d. How do you find out whether one object is heavier than another, without using a balance?____

4. Write a generalisation that describes the path taken by falling bodies.____

Score:____________ **Teacher's initials:**____________

NAME______________________________ CLASS____________ DATE____________

TESTS ON CHAPTER VI

WORLDS IN SPACE

Recall

1. Draw a diagram to illustrate how the inclination of the earth's axis causes summer and winter. Mark on the diagram the following letters which indicate the positions occupied by the earth at various times of the year.

A. Winter solstice in the Northern Hemisphere.

B. Winter solstice in the Southern Hemisphere.

C. Summer solstice in the Northern Hemisphere.

D. Summer solstice in the Southern Hemisphere.

E. The longest nights and shortest days occur in the Northern Hemisphere.

F. The longest days and shortest nights occur in the Northern Hemisphere.

G. The length of the days and nights are equal in both hemispheres.

H. The area within the Arctic Circle does not receive light for 24 hours each day.

I. The area within the Antarctic Circle does not receive light for 24 hours each day.

J. The area within the Antarctic Circle receives light for 24 hours each day.

K. The area within the Arctic Circle receives light for 24 hours each day.

2. State the relationship between each of the following pairs.

a. The distance separating a heavenly body from the earth and its apparent size as judged from the earth.

b. The atmosphere and the radiant energy received by the earth.

c. The gravitational attraction between two masses and the amount of matter in them.

d. The gravitational attraction between two masses and the distance separating them.

e. A planet's period of revolution and its distance from the sun.

Recognition

3. If a statement is true, write the word 'true' on the blank space at the right of the statement; if false, write the words which should be substituted for the italicised words to make the statement true.

a. The side of the moon which faces the sun is extremely hot because *the moon is nearer the sun than any other heavenly body.*

b. Comets are considered to be members of the solar system since they *originate from the sun.*

c. Day and night are caused by *the rotation of the earth about its axis.*

d. The unit used to calculate distances separating the earth from the stars is the distance *from the earth to the nearest star.*

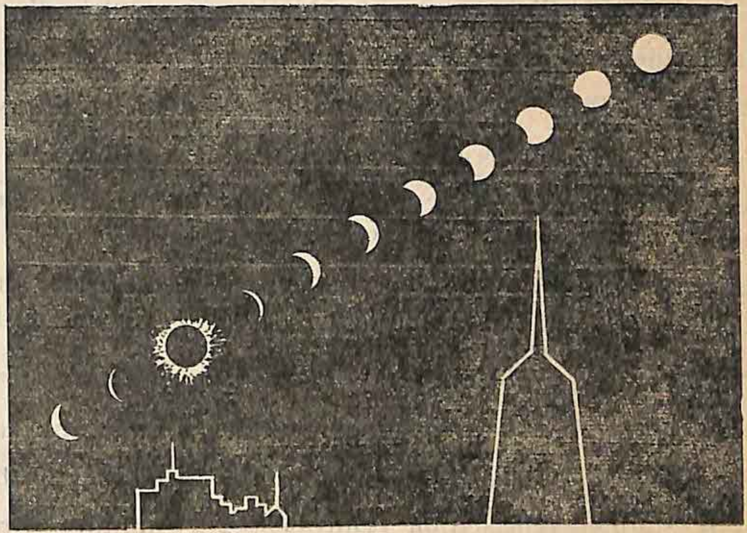
e. A lunar month is the period *taken by the moon to complete its orbit round the earth.*

Understanding

4. Draw labelled diagrams to illustrate an eclipse of the sun and an eclipse of the moon. On the diagram, mark letters as indicated to show the positions an observer must occupy if he wishes to view the following: **A,** a total eclipse of the sun; **B,** a partial eclipse of the sun; **C,** a total eclipse of the moon.

NAME____________________________________ CLASS____________ DATE____________

5. The drawing is of a series of photographs taken during a solar eclipse. Mark the following below the drawing.
   a. An unbroken arrow to show the direction in which the earth is revolving.
   b. A broken arrow to show the direction in which the moon is apparently revolving.
   c. A feathered arrow to show the direction in which the sun is apparently revolving.



6. Below are two groups of statements. The first group is a list of scientific facts while the second group is a list of situations which can be best explained by one of the facts listed in the first group. Select the letter denoting the fact that explains a given situation and write it on the blank space before the number of the situation.

Group I

A. The movement of all heavenly bodies in the universe is regulated by gravitational and centrifugal forces.

B. The shape of the earth is approximately that of a sphere.

C. The moon reflects the light of the sun to us.

D. The axis of the earth is tilted at an angle from the perpendicular to the plane of its orbit.

E. The time taken by the moon to rotate once on its axis is the same as the time it takes to complete one revolution round the earth.

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Group II

_______ i. On the 22nd June the Northern Hemisphere has its longest day.

_______ ii. Lunar eclipses occur only at full moon.

_______ iii. When it is midday in Calcutta it is midnight in New Orleans (North America).

_______ iv. One side of the moon is about—150°C., while the other side is about 120°C.

_______ v. The earth moves in the same orbit year after year.

_______ vi. The moon apparently changes its shape from a crescent to a complete circle.

_______ vii. The Pole Star is invisible from a point south of the Equator.

_______ viii. We always see the same features of the moon.

_______ ix. The force of gravitation on the earth is everywhere approximately the same.

_______ x. We have seasons during the course of the year.

_______ xi. We do not see the moon when it is in line with the sun on the one side and the earth on the other.

_______ xii. At the beginning and end of an eclipse of the moon, the earth's shadow as thrown on the surface of the moon is seen to be an are of a circle.

7. Solve these problems.

   a. A certain star is 25 million million miles away from the earth. How long ago was it since star-light left this star to start its journey to the earth?________________

   b. Sunlight reflected off Venus takes 2·24 minutes to reach the earth. How far is this planet away from the earth?______________________________

   c. If you were to leave the earth in a rocket which travelled at a steady 10,000 miles per hour, how long would it take you to reach the moon?________________

   d. In making a scale model of the earth and the moon, suppose you use a ball 4 inches in diameter to represent the earth, how big a ball would you use to represent the moon?____

Score:____________ **Teacher's initials:**____________

NAME____________________ CLASS__________ DATE__________

TESTS ON CHAPTER VII

WHAT ALL LIVING THINGS CAN DO

Recall

1. Name seven activities common to all living things.

i. ____________________

ii. ____________________ **v.** ____________________

iii. ____________________ **vi.** ____________________

iv. ____________________ **vii.** ____________________

2. What is meant by (**a**) tendrils, (**b**) carnivorous animals, (**c**) herbivorous animals, (**d**) omnivorous animals, (**e**) the phrase 'a living thing persists'?

a. ____________________

b. ____________________

c. ____________________

d. ____________________

e. ____________________

Understanding

3. Differentiate between the following pairs.

a. The movement of a bicycle and the movement of an animal.

b. The growth of a crystal in a saturated solution of salt and the growth of a living being.

Score: __________ **Teacher's initials:** __________

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TESTS ON CHAPTER VIII

DIFFERENCES BETWEEN PLANTS AND ANIMALS

Recall

1. State three differences in the modes of life of animals and plants.

i.____

____

ii.____

____

iii.____

____

Understanding

2. Below are five separate lists of the characteristics possessed by living things lettered **A, B, C, D** and **E.** Classify each living thing as a plant (**X**) or as an animal (**Y**) and write the letter of its classification on the blank space at the left. On the blank space at the right, write the number of the characteristic which helped you in your classification.

______**A.** (i) Feeds on liquid food; (ii) body composed of one cell; (iii) cell wall constructed of cellulose; (iv) spherical in form; (v) lacks chlorophyll; (vi) compact in structure. ______

______**B.** (i) Feeds on manufactured food; (ii) each cell possesses a definite cell wall; (iii) body composed of many cells; (iv) remains fixed in one spot; (v) body matter is colourless; (vi) lacks sense organs. ______

______**C.** (i) Body composed of many cells; (ii) lives in a watery medium; (iii) does not aggressively seek out its food; (iv) remains fixed in one spot; (v) possesses a nervous system; (vi) greenish in colour. ______

______**D.** (i) Filamentous in form; (ii) does not branch; (iii) manufactures food from carbon dioxide and water in the presence of sunlight; (iv) lives in a watery medium; (v) free-floating; (vi) grows by elongation and cell division. ______

______**E.** (i) Feeds on manufactured food; (ii) remains fixed in one spot; (iii) lives in a watery medium; (iv) cells are naked without walls of cellulose; (v) branched in shape; (vi) lacks a nervous system. ______

Score:____________ **Teacher's initials:**__________________

NAME____________________ CLASS__________ DATE__________

TESTS ON CHAPTER IX

PLANT FRIENDS AND FOES

Recall

1. (**a**) What are weeds? (**b**) What harm do they do? (**c**) State five ways by which they can be eradicated before they produce seed.

a.____________________

b.____________________

____

c. i.____________________

ii.____________________

iii.____________________

iv.____________________

v.____________________

2. State three advantages the tractor-drawn plough has over the bullock-drawn plough.

i.____________________

ii.____________________

iii.____________________

Recognition

3. Select the number of the item that best completes the statement and write it on the blank space at the left of the statement.

______(**a**) Maize is best cultivated in regions where the annual average rainfall is (i) between 10 to 20 inches; (ii) between 20 to 30 inches; (iii) between 30 to 40 inches; (iv) over 40 inches.

______(**b**) A biennial (i) attains its full growth in one season; (ii) takes two years to complete its life cycle; (iii) lives and grows for three years or more; (iv) has underground stems.

______(**c**) A pain-killing drug called morphine is prepared from (i) the cinchona plant; (ii) the strychnos plant; (iii) the coca plant; (iv) the opium poppy plant.

______(**d**) Cotton grows best in (i) the Ganges delta; (ii) the Vale of Kashmir; (iii) the Deccan plateau; (iv) the windward slopes of the Western Ghats.

4. Place the following in their correct column: apple, bael, banana, barley, bean, beetroot, brinjal, cabbage, carrot, cedar, celery, cherry, cinchona, coca, ebony, gram, groundnut, guava, holy basil, lettuce, mahogany, maize, mango, millet, nim, onion, opium, pea, peach, pine, plum, rice, sal, shisham, strychnos, teak, wheat.

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Cereals	*Pulses*	*Vegetables*	*Fruit Trees*	*Timber Trees*	*Medicinal Plants*

5. Group I is a list of plants and Group II a list of plant storage organs. On the blank space before the number of each storage organ, write the letter(s) of the plants(s) which stores its reserve food in such an organ.

Group I

A. Lettuce. **B.** Carrot. **C.** Tomato. **D.** Gourd. **E.** Celery. **F.** Onion. **G.** Radish. **H.** Potato. **I.** Cabbage. **J.** Beetroot. **K.** Brinjal.

Group II

________**1.** Root. ________**2.** Leaf. ________**3.** Underground stem. ________**4.** Fruit.

Understanding

6. From the list of farming methods of improving soil given below select one or more which is adopted to achieve each of the following and write its letter(s) on the corresponding blank space at the left.

________________**a.** To enrich soil in minerals.

________________**b.** To prevent soil from becoming poorer in certain valuable minerals.

________________**c.** To let air into the soil.

________________**d.** To keep moisture close to the surface of the soil.

________________**e.** To remove excess water from the soil.

________________**f.** To increase the depth of the soil.

Farming methods of improving soil: **A.** Adding fertilisers. **B.** Digging. **C.** Drainage. **D.** Adding manure. **E.** Rotation of crops. **F.** Hoeing. **G.** Rolling. **H.** Forking. **I.** Ploughing.

Score:________________ **Teacher's initials:**________________

NAME______________________________ CLASS____________ DATE____________

TESTS ON CHAPTER X

ANIMAL FRIENDS AND FOES

Recall

1. State the chief characteristic(s) of the following groups of animals. Give an example of each group.

a. Fishes.

____

____

*Example:*____________________

b. Amphibians.

____

____

*Example:*____________________

c. Reptiles.

____

____

*Example:*____________________

d. Birds.

____

*Example:*____________________

e. Mammals.

____

*Example:*____________________

2. State four reasons why wild life is of value.

i.____

ii.____

iii.____

iv.____

Recognition

3. If a statement is true, write the word 'true' on the blank space at the right of the statement; if false, write the word(s) which should be substituted for the italicised word(s) to make the statement true.

a. Lard is obtained from *cow's milk.*____________________

b. Sheep are best reared on *low-lying alluvial land where the rainfall is heavy.*

c. The *Lion* and *Rhinoceros* were once plentiful, but are now rare in India.

d. A predator is an animal that feeds on *dead animals.*

e. Certain insects such as *locusts* have sucking mouth parts and feed on the juices of plants.________________

4. From the animal products listed below, select one or more which are obtained from each of the following and write its letter(s) on the corresponding blank space at the left.

________________**a.** Cow.

________________**b.** Sheep.

________________**c.** Bee.

________________**d.** Pig.

________________**e.** Elephant.

________________**f.** Fox.

Animal products: **A.** Ham; **B.** Leather shoes; **C.** Felt hats; **D.** Flannel; **E.** Milk; **F.** Ivory ornaments; **G.** Woollen blankets; **H.** Cheese; **I.** Glue; **J.** Fur coats; **K.** Honey.

5. Underline the names that are out of place.

a. *Seed eaters:* sparrow, sun-bird, canary, dove.

b. *Flesh eaters:* hawk, owl, crow, turkey.

c. *Draught animals:* buffalo, goat, horse, elephant.

d. *Insect eaters:* myna, babbler, parrot, oriole.

e. *Scavengers:* crow, kite, vulture, bulbul.

f. *Predatory birds:* shikra, heron, kestrel, kite.

g. *Predatory animals:* lion, tiger, tapir, leopard.

Score:________________ **Teacher's initials:**________________

NAME____________________ CLASS__________ DATE__________

TESTS ON PART I

1. Name:

a. Two sources of common salt.

i.____________________ **ii.**____________________

b. Three common minerals found in igneous rocks.

i.______________ **ii.**______________ **iii.**______________

c. Two inland seas that are in existence today.

i.____________________ **ii.**____________________

d. Two rocks constituting almost the whole of the earth's surface.

i.____________________ **ii.**____________________

e. Four building materials that are found ready-made in nature.

i.____________ **ii.**____________ **iii.**____________ **iv.**____________

f. Four building materials that are prepared by suitable mixing of various materials found in nature.

i.____________ **ii.**____________ **iii.**____________ **iv.**____________

g. Two monsoon winds that blow over India.

i.____________________ **ii.**____________________

h. Two plants whose fibres are utilised in the manufacture of textiles.

i.____________________ **ii.**____________________

i. Five insects that carry disease germs.

i.__________ **ii.**__________ **iii.**__________ **iv.**__________ **v.**__________

j Two molluscs.

i.____________________ **ii.**____________________

2. What is meant by:

a. Fossil?______________________________

b. Shooting stars?______________________________

c. Milky Way?______________________________

d. Glacier?______________________________

e. Constellation?______________________________

f. A Cell?______________________________

g. A seismograph?______________________________

h. A fungicide?______________________________

i. Bacteria?

j. A meteorologist?

3. List:

a. Five good farm practices to guard against the soil erosion of gentle slopes or flat land.

i. **ii.** **iii.**

iv. **v.**

b. Three special properties of metals which make them useful.

i. **ii.** **iii.**

c. Four successive steps in the process of shaping a metal by casting.

i. **ii.**

iii. **iv.**

4. Distinguish between each of the following pairs.

a. An alloy and an ore.

b. Weathering and erosion.

c. Waxing and waning.

d. The movement of a satellite and the movement of a planet.

e. Sunlight and moonlight.

5. Do this puzzle.

Clues across

1. One who cuts, prepares and lays stones. 2. A planet. 4. A snake-like fish. 5. A tree whose wood is resistant to termites. 6. Wells are drilled thousands of feet below the surface of the earth to obtain it (reversed spelling). 7. The size of the particles is in between those of clay and sand (reversed spelling). 9. The most common and useful of metals. 10. A precious stone composed of quartz of different tints. 11. Certain plants

NAME__________________________________CLASS____________DATE____________

have this as a further inducement for insect visitors. 12. A mineral containing a metal in such a form and amount as to make its commercial separation practical. 13. An insect that helps in the pollination of certain plants. 15. A pestilential mammal (jumbled spelling). 16. A pulse. 18. The portion of the soil that comes from plant and animal remains (reversed spelling). 19. Solid crystals of ice formed on an object when the temperature of the object and the dew point falls below O°C. 21. The stiff hairs of these animals are used in the manufacture of certain kinds of brushes. 22. A strong wind, between a stiff breeze and a hurricane (jumbled spelling). 23. A national beverage (jumbled spelling). 24. A bird that helps the farmer by killing such pests as rats and mice. 25. The eggs or spawn of fish (jumbled spelling). 26. A heavenly body with an eccentric orbit. 27. These are caused by unequal pressures in the atmosphere.

1					■	2				3
4			■	5			■	6		
7			8	■	■	■	9			
10					■	11				
	■	12			■	13			■	
■	■	■		■	■	■		■	■	■
14	■	15			■	16			■	17
18					■	19			20	
21				■	■	■	22			
23			■	24			■	25		
26					■	27				

Clues down

1. A substance distinguished from other substances by its bright shiny surface. 3. Opposite of south (jumbled spelling). 8. A kind of cloud formed during condensation taking place in the colder layers of the atmosphere. 9. A huge block of floating ice. 14. Most of the universe is made up of this (jumbled spelling). 15. The molten mass which issues from a volcano (reversed spelling). 17. Luminous heavenly bodies. 20. A new plant develops from this.

6. Account for each of the following facts.

a. Although uncultivated ground supports pleniful vegetation year after year, yet manure and artificial fertilisers have to be added to cultivated soil in order to maintain a satisfactory yield of crops.______________________________

____

b. An inflated balloon taken to a very high altitude bursts.

c. Fog quickly disappears when the sun comes out.

d. Water rises further in fine clay soil by capillary action than it does in coarse sandy soil.

e. A bottle of lemonade when taken from the refrigerator and brought into a warm room becomes coated with moisture on its outer surface.

f. The plains of the moon are not covered with soil.

g. Many stars appear to rise and set just as the sun and moon do.

h. Although dead weeds left on the ground will decay and consequently enrich the soil, yet the wise farmer burns them.

i. The Pole Star as seen in the Northern sky appears to stand still.

Score: ________ **Teacher's initials:** ________

NAME ______________________________ CLASS ____________ DATE ____________

TESTS ON CHAPTER XI

THE AIR AND YOU

Recall

1. (**a**) What ill effects are attributed to breathing impure air? (**b**) What diseases are spread by germs that are breathed out into the air?

a. ____

____

b. ____

2. Name nine materials that may be used to coat iron objects and prevent them from rusting.

i. __________ **ii.** __________ **iii.** __________ **iv.** __________ **v.** __________

vi. __________ **vii.** __________ **viii.** __________ **ix.** __________

3. State three standards by which air is judged to be desirable for breathing.

i. ____

____

ii. ____

____

iii. ____

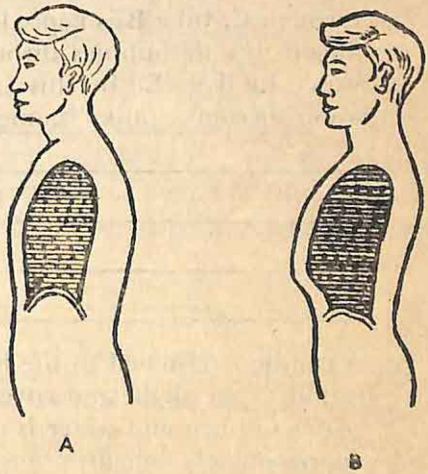
____

4. The two diagrams given below show the positions of the chest cavity and the diaphragm when air is inhaled and exhaled.

a. Label on each diagram the following: (**i**) diaphragm **D**; (**ii**) chest **C**; (**iii**) abdomen **A**; (**iv**) unbroken arrows to indicate the direction of air entering the body and broken arrows to indicate the direction of air escaping from the body.

b. Name two structures of the body which control the size of the chest cavity: (**i**) __________ (**ii**) __________

c. How does air pressure in the lungs in position **A** compare with the air pressure outside



the lungs? ______

d. How does the air pressure in position **B** compare with the air pressure outside the lungs?

e. In which position is the chest (**i**) contracted, (**ii**) expanded? **i.**______ **ii.**______

f. In which position are the muscles (**i**) contracted, (**ii**) relaxed? **i.**______ **ii.**______

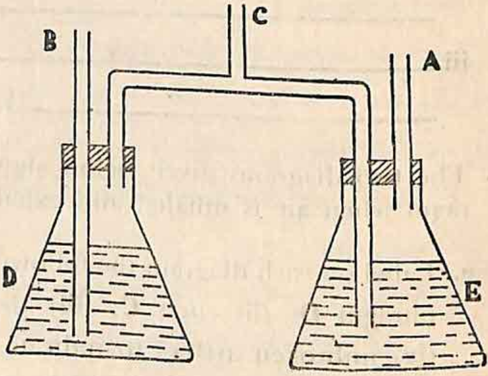
g. In which position do the ribs swing (**i**) upwards and outwards, (**ii**) downwards and inwards? **i.**______ **ii.** ______

Understanding

5. Explain each of the following.

a. A funnel was placed with its stem inside the neck of an empty soda-water bottle. The space around the funnel was sealed with plasticine. When water was slowly poured into the funnel it was observed that no water entered into the bottle. ______

b. When air is sucked in through **C,** tube **A** is kept closed with the finger and air bubbles through the lime-water in flask **D.** The lime-water does not become milky. After this operation has been repeated for about 10 minutes, the lime-water becomes slightly milky. When air is breathed out through **C,** tube **B** is kept closed with the finger and air bubbles through the lime-water in flask **E.** In this case the lime-water becomes milky immediately.



c. A candle is fastened to the bottom of a bowl and water is poured into the bowl. The candle is set alight and covered over with a milk bottle. After some time the candle ceases to burn and water is observed to have risen in the bottle to a height which is approximately one-fifth the total volume of air originally contained in the bottle.

NAME______________________________ CLASS______________ DATE______________

6. On the blank spaces at the left of the following phrases write the numbers 1 to 8 to indicate the proper order of the steps in giving artificial respiration.

How to give artificial respiration

_____Straddle across the patient's thighs.

_____Place the palms of your hands on the small of the patient's back just over the lowest ribs.

_____Lay the patient on his stomach.

_____Swing your body backward to remove the pressure on the patient's body.

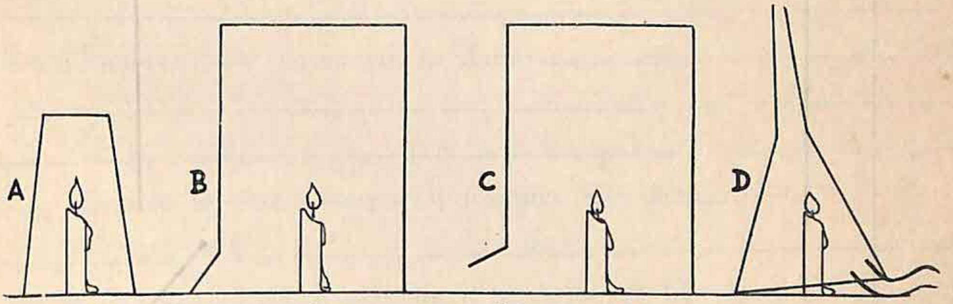
_____Bend the right arm of the patient at the elbow and rest his cheek on it.

_____With your arms held stiff in front of you, swing forward so that the weight of your body gradually produces pressure on the patient's chest.

_____Extend the left arm of the patient forward in front of his head.

_____Swing forward again and repeat the whole process.

7. In the experiment illustrated below, four lighted candles **A, B, C** and **D** are placed on a table. **A** is covered by a tumbler; **B** is covered by a glass jar; **C** is covered by a large glass jar whose lip does not come into contact with the table and **D** is covered by a large funnel which is raised off the surface of the table by means of a rubber tube. On the blank spaces below, write what happens to each candle. Also, assign a reason for each of your answers.



A.____

*Reason:*____

B.____

*Reason:*____

____

Reason: ______________________________________

____

____

D. ____

Reason: ______________________________________

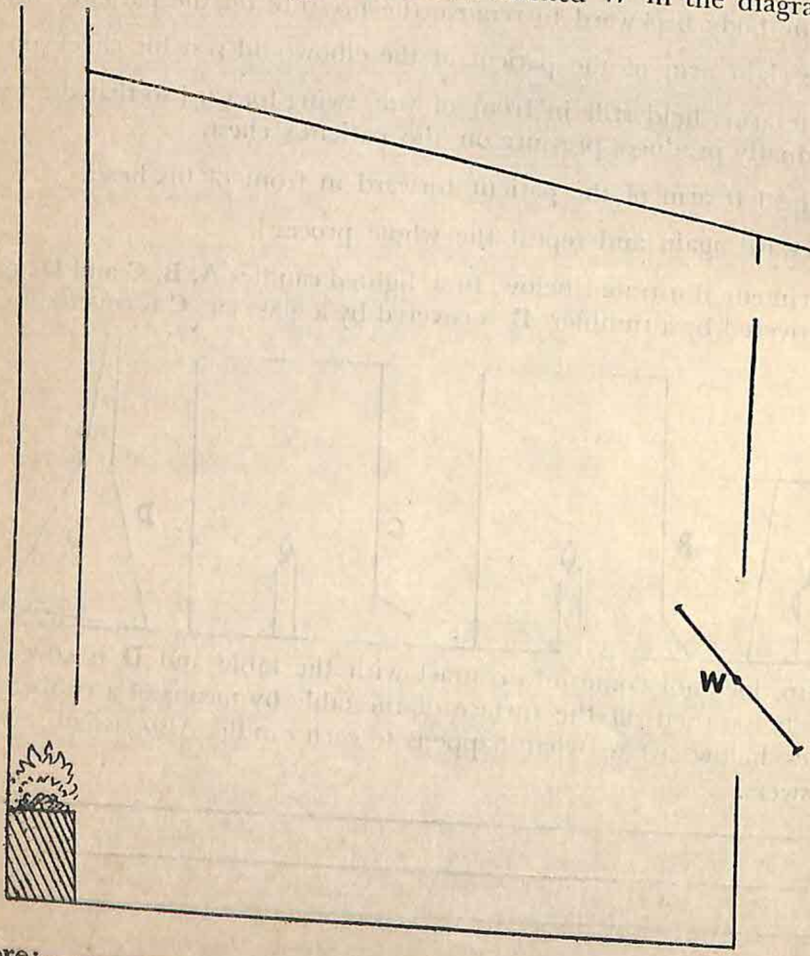
____

____

____

8. a. Indicate by marking arrows on the diagram the direction in which the air moves in the room.

b. What is the name for the type of window marked *W* in the diagram?



Score: ____________ **Teacher's initials:** ____________

NAME______________________________ CLASS______________ DATE______________

TESTS ON CHAPTER XII

WATER AND LIFE

Recall

1. When temporary hard water is boiled in a cooking utensil a precipitate known as 'fur' settles on the bottom and sides of a vessel. Answer the following questions about this substance.

   a. How many kinds of 'fur' are there?______________________________

   b. What are their chemical names?______________________________

   c. How is 'fur' responsible for wasting fuel?______________________________

   ____

   ____

   d. How is 'fur' responsible for the bursting of boiler tubes?______________________________

   ____

   e. How can 'fur' be identified?______________________________

   ____

2. a. What is meant by hard water?______________________________

   ____

   b. What substances cause temporary hardness?______________________________

   ____

   c. What substances cause permanent hardness?______________________________

   ____

   ____

   d. Name two ways by which temporary hardness can be removed.

   i.______________________________ ii.______________________________

   e. Name three ways by which permanent hardness can be removed. i.______________________________

   ii.______________________________ iii.______________________________

   f. Complete the following:

   i. Water + Carbon dioxide→______________________________

   ii.______________________________+ Calcium Carbonate → Calcium bicarbonate.

   iii.______________________________+ Sodium Carbonate → Magnesium Carbonate + Sodium Chloride.

   (__________) (soluble) (__________) (__________)

c. Parallel venation and reticulate venation.

d. Self-pollination and cross-pollination.

e. Taproot and fibrous root.

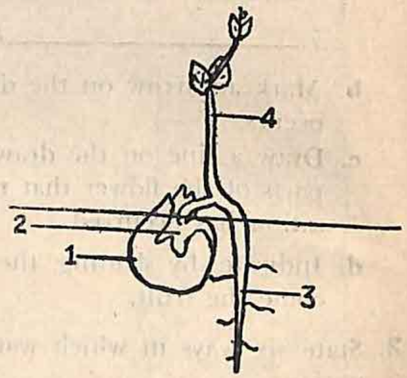
4. a. Identify the parts indicated by guide lines in the drawing of a germinating pea seedling. State the function of each part.

1.__________ *Function:*

2.__________ *Function:*

3.__________ *Function:*

4.__________ *Function:*



b. Draw a line on the drawing to enclose the parts which will decompose once the seedling has established itself.

5. In the given table, name four differences between the characteristics of a monocotyledon and a dicotyledon.

Monocotyledon	*Dicotyledon*
i.	
ii.	
iii.	
iv.	

NAME____________________ CLASS__________ DATE__________

Recognition

6. Select the number of the item that best completes the statement and write it on the blank space at the left of the statement.

____**a.** The axil of a leaf is (i) a bud; (ii) the angle made by the leaf stalk and the stem; (iii) the place from which a leaf develops; (iv) the region between two successive nodes.

____**b.** The green colouring matter in plants helps them to (i) breathe; (ii) retain water; (iii) produce seeds; (iv) manufacture food.

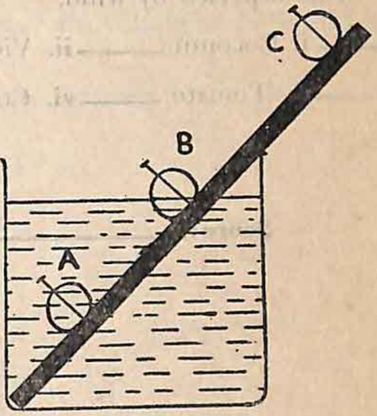
____**c.** The scar seen on a seed is called the (i) hilum; (ii) tegmen; (iii) micropyle; (iv) embryo.

____**d.** The inflorescence is the name given to (i) a cluster of tiny leaves protecting the growing point of the stem; (ii) a group of flowers borne at the end of a branch; (iii) a slender, wiry, closely coiled structure which is sensitive to contact with a foreign body; (iv) a set of petals.

____**e.** Before a seed is formed (i) the corolla must give a sweet scent; (ii) the fruit must be formed; (iii) the pollen grain must fuse with the ovule; (iv) cross-pollination must take place.

Understanding

7. In the demonstration illustrated here, three dry pea seeds **A, B,** and **C** are attached to a piece of wood placed in a beaker of water.



a. On the blank spaces below, write what happens to each seed. Also, assign a reason for each of your answers.

A.____________________

*Reason:*____________________

B.____________________

*Reason:*____________________

C.____________________

*Reason:*____________________

b. What scientific generalisation is demonstrated here?

____

____

c. State two precautions that must be taken to ensure a correct result.

i.____________________

iv. Sodium Carbonate + ____________ → Sodium Sulphate + Calcium Carbonate.
(soluble) (__________) (__________) (__________)

v. ____________ + Sodium Carbonae → Sodium Bicarbonate + Magnesium Carbonate.
(__________) (soluble) (__________) (__________)

3. State:

a. Three ways by which impurities get into water.

i. ______________________________

____

ii. ______________________________

____

iii. ______________________________

____

b. Four successive steps in the process of purifying water for a town supply.

i. ______________________________

____

ii. ______________________________

____

iii. ______________________________

____

iv. ______________________________

____

c. Five successive steps in the repair of a leaking tap.

i. ______________________________

ii. ______________________________

iii. ______________________________

iv. ______________________________

v. ______________________________

d. Two main reasons why hard water is undesirable.

i. ______________________________

____

ii. ______________________________

____

NAME_____________________ CLASS__________ DATE__________

Recognition

4. Select the number of the item that best completes the statement and write it on the blank space at the left of the statement.

_____**a.** The solid dissolved by a liquid is called the (i) solvent; (ii) solution; (iii) solute; (iv) dissolver.

_____**b.** A lake is formed when (i) the water table lies level with the surface of the earth; (ii) the water table lies higher than the surface of a valley; (iii) the ground water reaches a sloping surface that is lower than the water table; (iv) the water table lies lower than the surface of a valley.

_____**c.** After water has been boiled for a few minutes it has a flat taste because (i) all the germs in it have been killed; (ii) all the minerals in it have come out of solution; (iii) all the dissolved air it contains has been driven out; (iv) it has changed its chemical composition.

_____**d.** Chalk is chemically known as (i) calcium carbonate; (ii) calcium bicarbonate; (iii) calcium chloride; (iv) calcium sulphate.

_____**e.** When water changes its state from liquid to gas it is said to (i) liquefy; (ii) distillate; (iii) condense; (iv) evaporate.

Understanding

5. With a sample of muddy sea water, what process(es) would you employ to (**a**) remove the mud; (**b**) obtain a specimen of common salt; (**c**) obtain chemically pure water?

a.____

b.____

c.____

6. Draw a sectional diagram of the apparatus you would use for **5**(**c**). Label the diagram.

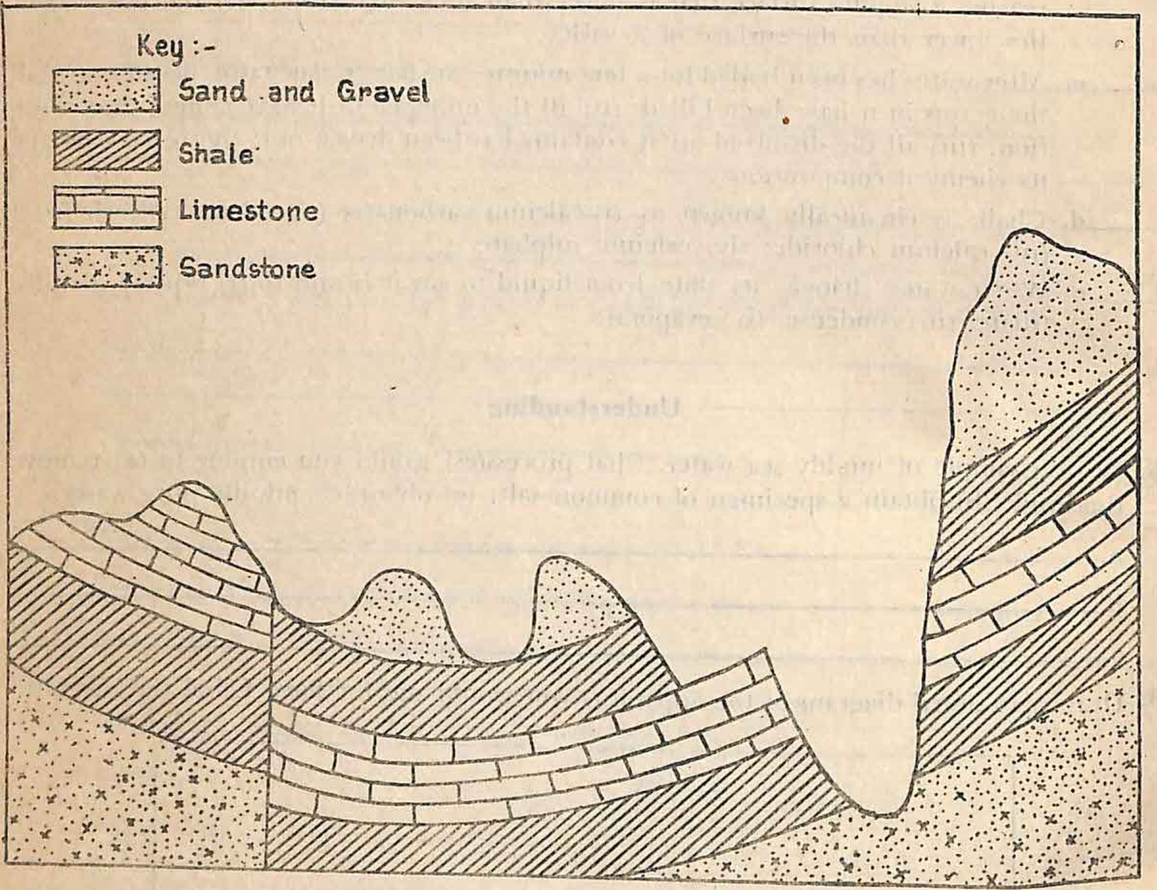
7. On the diagram, insert the following:

a. Arrows showing the direction in which water travels underground.

b. Feathered arrows to show the positions of springs.

c. If you think that the water flowing from a spring is hard, write the letter *A* next to it; if soft, write *B*.

d. Write the letters *SW* to show the position of a swamp.



Score: ____________ **Teacher's initials:** ____________________

NAME______________________ CLASS__________ DATE__________

TESTS ON CHAPTER XIII

A FAMILIAR FLOWERING PLANT—THE PEA

Recall

1. a. Identify the parts indicated by guide lines in the drawing below of a Pea flower. State the function of each part.

1.__________ *Function* :__________

2.__________ *Function* :__________

3.__________ *Function* :__________

4.__________ *Function* :__________

5.__________ *Function* :__________

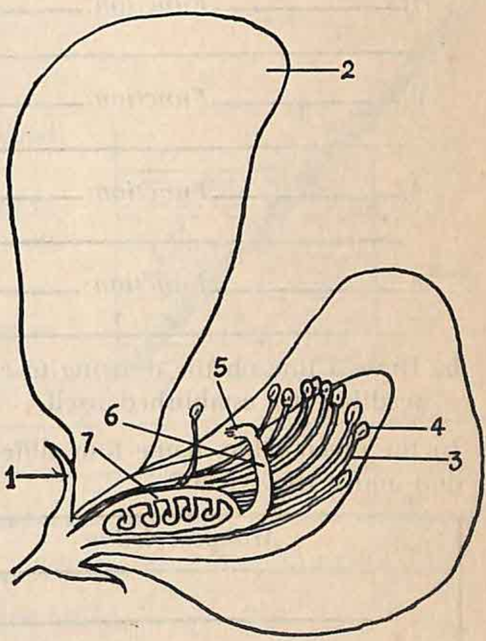
6.__________ *Function* :__________

7.__________ *Function* :__________

b. Mark an arrow on the drawing to show the approximate place where fertilisation occurs.

c. Draw a line on the drawing to enclose the parts of the flower that remain after fertilisation has occurred.

d. Indicate, by shading, the part that will become the fruit.



2. State six ways in which water helps in germination.

i.__________

ii.__________

iii.__________

iv.__________

v.__________

vi.__________

3. Distinguish between the following pairs.

a. Opposite leaves and whorled leaves.__________

b. Simple leaf and compound leaf.__________

ii. ____

____

d. What condition necessary to germination is only indirectly shown by this demonstration?

____

e. Suggest a method or methods whereby the condition mentioned in (**d**) can be shown without disturbing the arrangement of the apparatus.

____

____

____

____

____

8. On the blank space at the left of each fruit, write **A,** if it is dispersed by animals; **B,** if it is dispersed by a sudden explosion; **C,** if it is dispersed by means of water and **D,** if it is dispersed by wind.

_____**i.** Coconut. _____**ii.** Violet. _____**iii.** Sunflower. _____**iv.** Balsam.

_____**v.** Tomato. _____**vi.** Cocklebur. _____**vii.** Gul Mohr. _____**viii.** Red Silk Cotton.

Score: __________ **Teacher's initials:** __________

NAME ______________________ CLASS ____________ DATE ____________

TESTS ON CHAPTER XIV

TWO HOUSEHOLD PESTS

Recall

1. Answer the following questions.

a. Why are the housefly and the mosquito considered to be the two greatest household pests? ______________________

b. How does the housefly spread disease? ______________________

____

____

c. How does the mosquito spread disease? ______________________

____

2. a. Sketch and label the four stages of the life-history of the housefly in the space on the left.

b. Sketch and label the four stages of the life-history of an Anopheles mosquito in the space on the right.

Recognition

3. If a statement is 'true' write the word true on the blank space at the right of the statement; if false, write the word(s) which should be substituted for the italicised word(s) to make the statement true.

a. On either side of the housefly's head are *two large eyes.* ______________________

____

b. The fly smells its food by means of *its feeles.*____________________

____

c. The Culex mosquito carries *malaria.*________________________

____

d. The male mosquito feeds on *human blood.*____________________

____

e. The Anopheles mosquito lays its eggs *joined together in the form of a raft.*______

____

Understanding

4. Solve these problems.

a. A boy who was entrusted with the school aquarium resolved to give the fish the best possible care while they were in his charge. Accordingly, he emptied the water from the aquarium and refilled it with distilled water. Unfortunately, all the fish died within a few minutes. He noticed, however, that certain creatures such as mosquito larvae and pupae had remained alive. Can you explain why the goldfish died and yet the mosquito larvae and pupae survived?

____

____

____

____

b. How has the investigation of the life-history of the mosquito helped to decrease the incidence of malaria?

____

____

____

____

____

____

Score:__________ **Teacher's initials:**__________

NAME____________________ CLASS__________ DATE__________

TESTS ON CHAPTER XV

RESPIRATION IN ANIMALS

Recall

1. What is meant by (**a**) pulmonary respiration; (**b**) internal respiration; (**c**) bronchial tubes; (**d**) air-sacs; (**e**) spiracles?

a.

b.

c.

d.

e.

2. State the relationship between each of the following pairs.

a. The activity of an animal and the amount of energy supplied to it by oxidation.

b. The amount of oxygen that can pass into an animal's body and the exposed surface area of its lungs.

3. Answer the following questions.

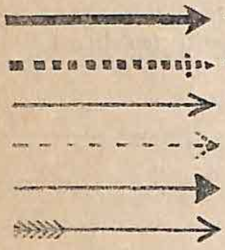
a. What happens to inspired air in the nose?

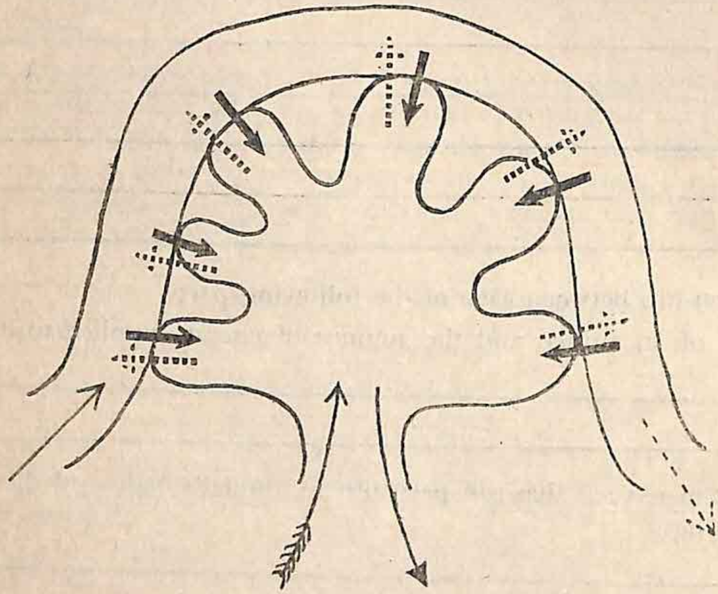
b. If you run your fingers down your throat you will feel hoops under the skin. What are these and what is their purpose?

c. Why is it necessary to change the water in an aquarium frequently?

Understanding

4. The diagram given below shows capillaries around an air-sac. What do the following arrows show?





Score:__________ Teacher's initials:__________

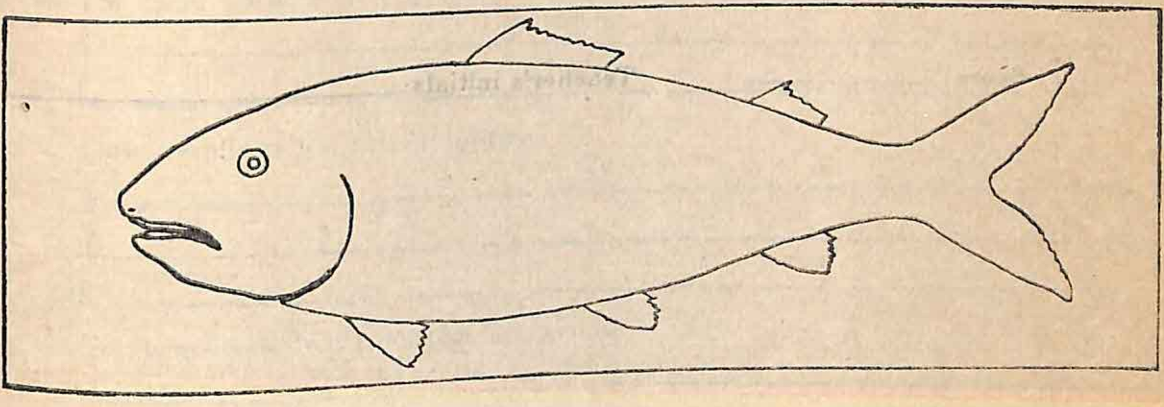
NAME ________________ CLASS ________ DATE ________

TESTS ON CHAPTER XVI

THE DIGESTIVE SYSTEM OF A FISH

Recall

1. On the diagram, insert the digestive system of the fish. Label the various organs.



2. What is the main function of the following?

a. Gall-bladder. ________________

b. Liver. ________________

c. Oesophagus. ________________

d. Pancreatic duct. ________________

e. Glands of the stomach wall. ________________

f. Pancreas. ________________

Understanding

3. Indicate six successive stages which a little fish must pass through on being swallowed by a large fish.

i. ________________

ii. ________________

iii. ________________

iv. ________________

v. ______________________________

____

vi. ______________________________

____

Score: __________ **Teacher's initials:** __________

NAME________________________________CLASS____________DATE____________

TESTS ON CHAPTER XVII

GOOD HEALTH FOR YOU AND YOUR COMMUNITY

Recall

1. State:

a. The main purpose of rest.

____

____

b. Three results of want of cleanliness.

i.____

ii.____

iii.____

c. Nine benefits derived from regular exercise.

i.____

ii.____

iii.____

iv.____

v.____

vi.____

vii.____

viii.____

ix.____

d. Seven factors on which depends the amount of each food substance needed in the diet of a person.

i.____

ii.____

iii.____

iv.____

v.____

vi.____

vii.____

e. Three objects of clothing the body.

i.____

ii. ____

iii. ____

2. (**a**) What is meant by malnutrition? (**b**) What does it lead to?

a. ____

b. ____

3. (**a**) What are ultra-violet rays? (**b**) What effect do they have on the body? (**c**) What diseases can be cured by exposing the body to such rays?

a. ____

b. ____

c. ____

Understanding

4. Give a reason for each of the following.

a. Refuse bins must be kept closed.

b. Oil is secreted from oil glands embedded in the skin.

c. Hands should be washed before each meal.

d. Cotton and linen clothes are particularly suitable for use in the summer months.

e. Loose fitting garments are warmer than those which fit tightly.

NAME______________________________ **CLASS**____________ **DATE**____________

f. Tight hats must not be worn.

____

____

g. Tight shoes must not be worn.

____

h. Soap is used for washing purposes.

____

5. Mark an **X** on the blank space at the left of each statement if you consider it to be an activity conducive to healthy living.

_____ **i.** Taking pills to relieve headache because they are widely advertised.

_____ **ii.** Treating a fever with medicines that have been recommended by an older person who has found such medicines efficacious in his own case.

_____ **iii.** Consulting a doctor before taking a tonic.

_____ **iv.** Using a toothpaste because it is reputed to be based on a new scientific discovery.

_____ **v.** Wearing shoes with pointed toes because of their smart appearance.

_____ **vi.** Using soap to clean the body because soap dissolves grease.

_____ **vii.** Resting only when you feel fatigued.

_____ **viii.** Eating meals which consist of a variety of foods.

_____ **ix.** Eating only in those restaurants that have been inspected by the department of health.

_____ **x.** Eating between meals to make sure that your body has an adequate supply of food.

_____ **xi.** Weighing yourself regularly because you wish to check your weight against recommended standards.

_____ **xii.** Masticating and swallowing your food quickly so as to help your digestive system to operate more efficiently.

_____ **xiii.** Drinking water during meals so as to wash the food down into the stomach.

_____ **xiv.** Turning on the fan in an ill-ventilated room so as to keep the air in the room in motion.

_____ **xv.** Exercising vigorously on alternate days so as to avoid exercising regularly every day.

6. Two important facts about water are given on the next page. On the blank space below each, say how the body makes use of the fact.

a. When water evaporates it absorbs heat from the body in contact with it.

____

____

b. Water dissolves certain substances.

____

____

Score:____________ **Teacher's initials:**________________

NAME________________ CLASS ________ DATE________

TESTS ON CHAPTER XVIII

SELF-HELP AND NEIGHBOUR-HELP FOR THE INJURED

Recall

1. Answer the following questions.

a. What precaution would you take in tying a bandage over a minor cut?

b. What is the purpose of placing a single layer of cloth moistened with cold water over a bruise.

c. How would you treat poisoning by acids (with the exception of carbolic acid)?

d. How would you treat poisoning by alkalies?

e. How would you tell whether a patient is suffering from the effects of poisoning by a corrosive substance or a non-corrosive substance?

f. How would you treat a person for shock?

g. In what case would you treat a person for shock?

2. State six things you would do in treating a person who has received extensive burns.

i.

ii.

iii.

iv.

v.

vi.

Recognition

3. Below is a list of substances followed by a list of ailments which can be treated in their preliminary stages by the first aider. Select the substance which is associated with the treatment of a given ailment and write its letter on the blank space at the left of the ailment.

Group I

A. An emetic.
B. Baking soda solution.
C. Dettol.
D. Washing soda solution.
E. Spirit.
F. Smelling salts.

Group II

________**i.** A bruise.
________**ii.** A burn or a scald.
________**iii.** Fainting.
________**iv.** A minor cut.
________**v.** Non-corrosive poisoning.
________**vi.** A sting.

Score:____________ **Teacher's initials:**____________

NAME____________________ CLASS__________ DATE__________

TESTS ON PART II

1. What is meant by:

a. Oxidation?____________________

b. Germination?____________________

c. Crystallisation?____________________

d. Rickets?____________________

e. Fatigue?____________________

2. Name:

a. Five diseases carried by the housefly.

i.________ **ii.**________ **iii.**________ **iv.**________ **v.**________

b. Four natural agents which purify the air.

i.________ **ii.**________ **iii.**________ **iv.**________

c. Two substances either of which must be present for iron to rust.

i.________ **ii.**________

d. Three disinfectants added to drinking water in order to kill germs.

i.________ **ii.**________ **iii.**________

e. Two diseases carried by the Culex mosquito.

i.________ **ii.**________

3. State:

a. Two ways in which burning, rusting and respiration are alike.

i.____________________

ii.____________________

b. Five ways in which expired air differs from inspired air.

i.____________________

ii.____________________

iii.____________________

iv.____________________

v.____________________

c. Two reasons why air is considered to be a material.

i. ______________________ ii. ______________________

4. Differentiate between the following pairs.

a. Rusting and tarnishing.

b. Respiration and breathing.

c. Solute and solvent.

d. Sediment and residue.

e. Pollination and fertilisation.

f. A burn and a scald.

g. Stem and root.

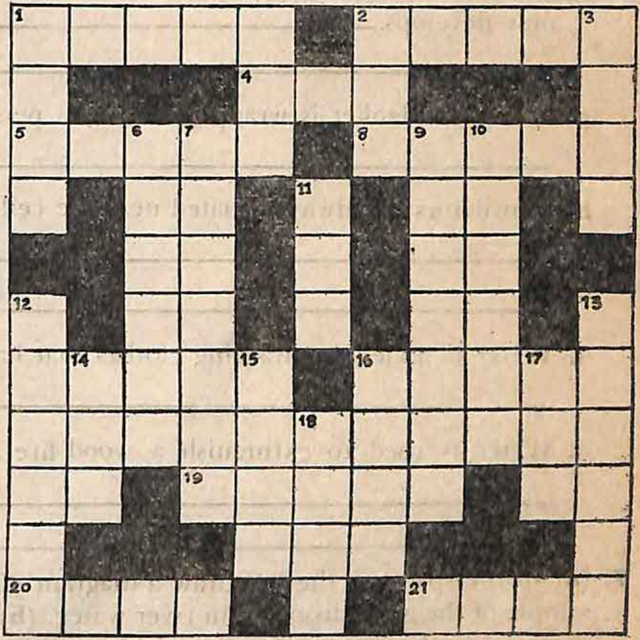
h. A petiolate leaf and sessile leaf.

i. Pulmonary and internal respiration.

NAME CLASS DATE

j. Testa and tegmen.

5. Do this puzzle.



Clues across

1. The common name for potassium nitrate. 2. The red fluid in the arteries and veins of men and animals. 4. The fruit of the pea. 5. It contains ovules. 8. A metal that tarnishes on exposure to air. 19. The narrow tube which joins the stigma to the ovary. 20. The descending portion of the plant's axis. 21. These live and breed on the skins of dirty people.

Clues down

1. A gas present in the air. 3. An impurity present in the air. 6. Caustic soda is an example of this. 7. People suffering with this disease are usually exposed to ultra-violet rays. 9. The solid material that collects in the funnel after filtration. 10. A plant that completes its life-history in a single year. 11. A group of plant cells that form new growth of stem and leaves or flowers. 12. A tap begins to leak when this becomes worn out. 13. A disease carried by the Culex mosquito. 14. A device used to bring about the circulation of the air in a room. 15. A toy that is operated by the direct push of the wind. 16. A digestive juice. 17. One of the bones that protect the lungs from injury. 18. A fly has hundreds of these on its head.

6. Account for each of the following statements.

a. Roads are periodically sprayed with water.

b. In some places tap water forms a scum with soap even after the water has been boiled.

c. Insects are killed by spraying them with oil.

d. Blowing extinguishes a burnt match.

e. The formation of rust increases the weight of the iron.

f. When a handful of washing soda is thrown into a tub of hard water, a white cloudiness develops.

g. A rug or blanket is wrapped around a person whose clothes are on fire.

h. Ventilators are always situated near the ceiling.

i. Water is useless for washing clothes that have been stained by rust.

j. Water is used to extinguish a wood fire.

7. (**a**) In the space on the left draw a diagram of the apparatus you would use to collect a sample of the gases dissolved in river water. (**b**) In the space on the right, draw another diagram of the apparatus you would use to remove one of the gases from the sample.

Score:

Teacher's initials:

The End

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